

have been added. No new matter has been added. Applicant respectfully requests reconsideration of the pending claims in light of these amendments and the following remarks.

## **I. The §103 Rejections**

### **A. Claims 1, 10, 16, 20, 22, 23, 24, and 26**

Claims 1, 10, 16, 20, 22, 23, 24 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Huang et al.** (“**HU**”) (USPN 6,151,582) in view of **Bhandari et al** (“**BH**”) (UK Patent GB 2,293,667).

Claim 1 has been amended to recite in part, that it comprises:

“a case manager adapted for storing a plurality of sets and supersets of test data files, said sets and supersets of test data files being stored in said case manager in the form of a non-conventional tree like structure, being non-conventional in that said supersets underlie corresponding ones of said sets in said tree like structure, and further comprising one or more of said sets and said supersets of said test data files adapted to be selected by said operator...” (emphasis added).

As reflected above, the word “non-conventional” has been added to better clarify the unusual nature of this tree like structure, which unlike conventional tree like structures, provides for “supersets underlying corresponding ones of said sets...” (For support for this modification, see claim 1 as filed.) Thus no new matter has been added with this amendment. Similar amendments have been added to the other independent claims.

The Examiner states that **HU** teaches a case manager adapted for storing a plurality of sets and supersets of test data files, the sets and supersets of test data files being stored in the case manager in the form of a tree like structure” and that **HU** “teaches a hierarchical parent-child relationship among sets of data in the tree like structure.

The Examiner acknowledges, however, that **HU** does not teach that supersets may underlie the sets in the tree like structure. The Examiner asserts that this deficiency is met by the **BH** reference. Applicant respectfully disagrees and has amended the rejected claims to clarify the inherent differences between those claims and the references.

The Examiner states **BH** teaches a case manager adapted for storing a plurality of sets and subsets of test data files ... in a tree like structure.... In the model used by **BH**, the data in different levels of the hierarchy are related. The root could have basic data, and the successive levels of the hierarchy could hold different levels of additional data.” The Examiner then states that **BH** provides for including “the data at the higher levels in the data at the lower levels, so supersets of data underlie the sets of data.”

But the ability to hold “additional data” or “including data at higher levels in data at lower levels” does not equate to holding supersets in the lower levels. That is, if data from higher levels are included in the data at lower levels, that does not make the data at lower levels a superset of the set at the higher level, as the term is used in the instant application.

Supersets as described in the instant application include all the data in a set of data, plus data not contained in the set, i.e., data from outside the set. This does not mean additional data which merely further describes the set. If we look at a **BH** example of the type of data relationship described by the Examiner, one level might contain a hospital’s name (See Fig. 1), let’s say “Diligent Care.” A set at a lower level might contain the names of doctors entitled to practice at Diligent Care. This makes the lower level set a subset of all of the staff, assets, patients, etc, embodied in the entry Diligent Care. Thus, even though (and partially because) it provides additional information, i.e., these are the doctors entitled to practice at Diligent Care, the list of doctors is a subset, not a superset of the Diligent Care entry.

In order to be a “superset” in the sense of the instant application, the entry in the lower level would have to include information from outside the set of the higher entry, not just further limiting the set. A super set for this example would be to list under each doctor’s name, the other hospitals where he or she is entitled to practice. That entry would be a superset of the higher level Diligent Care entry of the hospital’s name. But **BH** makes no suggestion that Applicant can find of such a flexible structure. Because the present invention does provide the flexibility to allow supersets at levels below subsets, the present invention is not limited to a purely hierarchical structure. (Note that the word “hierarchical” is not included in the claims of the instant application.) Even the addition of **Cowgill** (“CO”) (USPN 5,835,566) does not supply this deficiency. To highlight this

distinction, i.e. that the tree like structure may not be purely hierarchical and that its tree like structure might be unusual as by allowing supersets at levels below sets, Applicant has amended the title and claims 1, 10, 15, 16, 20, 22, 24 and 26 to clarify this distinction, using the phrase “non-conventional tree like structure” to better describe the situation where a superset may be at a level below a set.

Claim 23 depends from claim 22 and contains all of its limitations as amended. Accordingly, Applicant respectfully submits that this rejection has also been traversed with respect to claim 23.

In addition, Applicant respectfully suggests that it is inappropriate to combine **BH** with **HU** to supply the deficiencies of the latter. **BH** is directed to a database storage system that is subject to searches to retrieve data by entering queries. **BH** does not disclose use of the retrieved data in a simulation system and there is no suggestion that the information obtained by the query system can be used for such a purpose. Indeed, since the data entries are based on entries made in and related to each other by language, it is not seen how they could be used in a simulation system and it does not seem that they could be combined seamlessly with the **HU** reference.

Accordingly, Applicants respectfully submit that this rejection has been traversed and request reconsideration and allowance of claims 1, 10, 16, 20, 22, 23, 24 and 26

**B. Claims 2, 9, 11-14, 17-19, 21, 25 and 27**

Claims 2, 9, 11-14, 17-19, 21, 25 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **HU** in view of **BH** and in further view of **CO**. These claims all depend from independent claims described in Section A above and contain all of the limitations of the independent claims, as amended, from which they depend. For the reasons described in Section A, **HU** and **BH** do not render those independent claims obvious and the addition of **CO** does not supply the deficiencies of that combination. Accordingly, Applicant respectfully submits that this rejection has also been traversed with respect to dependent claims 2, 9, 11-14, 17-19, 21, 25 and 27 and asks for reconsideration and allowance of those claims as well.

### C. Claim 15

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over **HU** in view of **BH** and in further view of **CO** and in further view of **Gunesekara** ("**GU**") (USPN 6,018,397). Like the claims discussed in section A herein, Claim 15 as amended recites in part "supersets underlying corresponding ones if said sets in said non-conventional tree like structure, the tree like structure being non-conventional in that some of said case scenarios being supersets of other of said case scenarios in the tree-like structure with said supersets underlying corresponding ones of said sets in said tree like structure, ..." (Emphasis added.) For the reasons described above in Section A, a combination of **HU** and **BH** does not disclose or suggest such a flexible structure and the addition of **CO** and **GU** does not supply the deficiencies of that combination. Accordingly, Applicant respectfully submits that this rejection has also been traversed with respect to claim 15 and asks for reconsideration and allowance of claim 15 as well.

### CONCLUSION

Applicant respectfully requests reconsideration of this application and allowance of its pending claims.

Respectfully submitted,



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Enclosures:

1. Acknowledgment Postcard
2. Transmittal Form
3. Petition for Extension of Time and Authorization to Charge Deposit Account (in duplicate);
4. Fee Transmittal and Authorization to Charge Deposit of Account (in duplicate).

5. Proposed amendments to claims in a marked format

## Marked Versions of Amended Claims

1. (Twice amended) In a simulator system and used by an operator and including a source of input data, a display, and a simulator adapted to be executed by a processor and generating a set of simulation results during the execution in response to said input data, an organizing and managing system operatively interconnected between the source of the input data and said simulator and said display, comprising:

a case manager adapted for storing a plurality of sets and supersets of test data files, said sets and supersets of test data files being stored in said case manager in the form of a non-conventional tree like structure, the tree like structure being non-conventional in that said supersets underlying corresponding ones of said sets in said tree like structure, and further comprising one or more of said sets and said supersets of said test data files adapted to be selected by said operator; and

editing means responsive to said one or more of said sets and said supersets of said test data files selected by said operator via said case manager and responsive to said input data for editing said test data files and said input data in response to editing actions taken by said operator and generating a set of edited test data files, said simulator generating said set of simulation results during the execution of said simulator in response to said set of edited test data files.

10. (Twice amended) In a simulation system used by an operator, a method for generating a set of simulation results in response to a set of input data and displaying said set of simulation results, comprising the steps of:

storing said input data in a case manager storage medium in the form of a non-conventional tree like structure, said input data including a plurality of sets of data and a plurality of supersets of said data, said sets of said data and said supersets of said data being stored in said case manager storage medium in the form of said tree like structure, said tree like structure being non-conventional in that supersets [underlying] underlie corresponding ones of said sets in said tree like structure, and with said sets of said data and said supersets of said data adapted to be selected by said operator;

generating said sets of said data from said case manager storage medium when said sets of data are selected by said operator;

submitting said sets of data to a simulator in response to the generating step, said simulator executing and generating said set of simulation results in response to said sets of data; and

displaying said set of simulation results.

15. (Twice amended) A simulation system responsive to a plurality of sets of input data for simulating an earth formation located in the vicinity of an oilfield reservoir, generating a set of simulation results in response to the simulation, and displaying the set of simulation results, comprising:

case manager means for organizing and managing the plurality of sets of input data being used by the simulation system, said case manager means including a plurality of sets of case scenarios and a plurality of supersets of case scenarios organized in a non-conventional tree-like structure, the tree like structure being non-conventional in that some of said case scenarios being supersets of other of said case scenarios in the tree-like structure[,] with said supersets underlying corresponding ones of said sets in said tree like structure, and further comprising an operator selecting one or more of the case scenarios in the case manager;

case builder means for receiving said one or more of the case scenarios selected by the operator, editing or changing a set of data disposed within the selected case scenarios in response to editing actions taken by the operator, and, responsive thereto, generating a set of edited case scenarios;

run manager means responding to the set of edited case scenarios from the case builder means for submitting the edited case scenarios to a simulator, the simulator responding to the edited case scenarios from the run manager means by executing and thereby generating the set of simulation results, the set of simulation results from the simulator being stored in a results file;

results viewer means for displaying the set of simulation results generated by the simulator, the results viewer displaying the set of simulation results and any instantaneous changes being made to the set of simulation results at any point in time; and

report generator means for generating one or more reports which record the set of simulation results.

16. (Twice amended) A device, comprising:

means for storing instructions which are executable by a processor of a computer, said instructions adapted for use by a simulation system for generating a set of simulation results in response to a selected set of data and displaying the set of simulation results, said instructions when executed by said processor of said computer conducting a process comprising the steps of:

presenting for display a non-conventional tree like structure representing a plurality of sets of data and a plurality of supersets of said data which are stored therein in the form of said tree like structure, the tree like structure being non-conventional in that said supersets [underlying] underlie corresponding ones of said sets in said tree like structure, with said plurality of sets of data and said plurality of supersets of data adapted to be selected by an operator via said tree like structure on said display;

presenting for display an editing means when said plurality of sets of data or said plurality of supersets of data are selected by said operator via said tree like structure on said display, said data adapted to be edited by said operator via editing means on said display thereby generating edited data; and

submitting said edited data to a simulator when said data is edited by said operator via said editing means on said display.

20. (Amended) A simulation system, comprising:

a case manager adapted for storing input data therein and organizing said input data in said case manager in a non-conventional tree like structure, said input data including a set of data and a corresponding superset of said set of data, the tree like structure being non-conventional in that said superset of said set of data [underlying] underlies said set of data in said tree like structure, a superset storing data therein which is also stored in a corresponding set of data but said superset further storing additional data therein which is not stored in said corresponding set of data, with at least one of said set of data and said corresponding superset of said set of data adapted to be selected by an operator from the tree like structure of said case manager;

a simulator responsive to said at least one of said set of data and said corresponding superset of said sets of data which is selected by said operator from the tree like structure in said case manager adapted for executing and using, during the execution, said at least one of said set of data and said corresponding superset of said set of data thereby generating a set of simulation results; and



means for displaying or recording said set of simulation results.

22. (Amended) A device adapted for storing instructions which, when executed by a processor, conducts a process comprising the steps of:

executing a simulator using input data during the execution of said simulator,

wherein the step of executing said simulator using said input data during the execution of said simulator includes the steps of,

(a) accessing a case manager, said case manager including at least one set of data and at least one superset of said set of data organized in said case manager in a non-conventional tree like structure, the tree like structure being non-conventional in that said superset of said set of data [underlying] underlies said set of data in said tree like structure, said set of data including a first group of data, said superset of said set of data including said first group of data plus additional data which is not included in said set of data,

(b) selecting, by an operator, either said set of data or said superset of said set of data, the data selected during the selecting step (b) representing said input data used by said simulator during said execution of said simulator, and

(d) executing said simulator using said data selected during the selecting step (b).

24. (Amended) In a simulation system including a case manager and a simulator operatively connected to said case manager, said case manager including a plurality of sets of data and a corresponding plurality of supersets of data organized together in said case manager in the form of a non-conventional tree like structure, each of said sets of data including a group of data, each of the corresponding supersets of data including said group of data plus additional data not included within the corresponding sets of data, the tree like structure being non-conventional in that the supersets of said set of data underlie the corresponding sets of data in the tree like structure, a method of performing a simulation, comprising the steps of:

(a) selecting, by an operator, at least one of said sets of data or at least one of said supersets of data in said tree like structure of said case manager, the selected data being generated from said case manager when the selected data is selected by said operator,

(b) receiving said selected data, selected by said operator during the selecting step (a), in said simulator, and

(c) performing, by said simulator, said simulation and using, by said simulator, said selected data which is received in said simulator during the receiving step (b)

26. (Amended) A device adapted for storing instructions and adapted to be disposed in a computer, said instructions adapted to be executed by a processor of said computer when said device is disposed in said computer, said processor performing method steps for performing a simulation in a simulation system when said instructions are executed by said processor of said computer, said simulation system including a case manager and a simulator operatively connected to said case manager, said case manager including a plurality of sets of data and a corresponding plurality of supersets of data organized together in said case manager in the form of a non-conventional tree like structure, each of said sets of data including a group of data, each of the corresponding supersets of data including said group of data plus additional data not included within the corresponding sets of data, the tree like structure being non-conventional in that the supersets of said set of data underlie the corresponding sets of data in the tree like structure, said method steps for performing said simulation in said simulation system comprising the steps of:

(a) selecting, by an operator, at least one of said sets of data or at least one of said supersets of data in said tree like structure of said case manager, the selected data being generated from said case manager when the selected data is selected by said operator,

(b) receiving said selected data, selected by said operator during the selecting step (a), in said simulator, and

(c) performing, by said simulator, said simulation and using, by said simulator, said selected data which is received in said simulator during the receiving step (b).